United States Patent and Trademark Office

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,728	12/12/2001	David W. Fuller	5150-54300	4599

35690	7590	04/04/2005

MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.
P.O. BOX 398
AUSTIN, TX 78767-0398

EXAMINER
BAYERL, RAYMOND J

ART UNIT	PAPER NUMBER
2173	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _13 December 2004_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1 - 4, 7 - 21, 24 - 32, 34 - 55_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1 - 4, 7 - 21, 24 - 32, 34 - 55_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

2.   Claims 19 – 30 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

In the amended claim 19, it is not clear how (lines 6 – 7) that the "memory

medium" will "include the one or more selected nodes in the graphical program in a

second palette", when such a recitation is taken in view of the specification and other

similar claims (as in claim 1), where "the one or more selected nodes" are simply

included "in the graphical program", with the "suggested nodes" instead occupying the

"second palette". So as to expedite prosecution, the Examiner presumes that applicant

had intended the claim 19 "selected nodes" to be included, simply, "in the graphical

program", with "suggested nodes" in the "second palette" instead.

3.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

4.   Claims 1 -10, 17 - 26, 31 – 35, 38 – 39, 42 – 50, 54, 55 are rejected under 35

U.S.C. 102(b) as being anticipated by Sojoodi et al ("Sojoodi"; US #5,784,275).

As per independent claims 1, 19, 31, 34, Sojoodi discloses a computer-

implemented method for creating a graphical program, this involving receiving user

input selecting one or more nodes to include in the graphical program: Referring

ahead briefly to FIG. 6, a screen shot of a graphical

programming environment, according the present invention,

including a VISA virtual instrument exemplary of the VI 50 of

FIG. 3 is shown.   The screen shot of FIG. 6 comprises an

instrument front panel in a window in the upper portion of the

screen and a block diagram in a window in the lower portion of

the screen.   The block diagram comprises program execution

elements, referred to as nodes, which are wired together to

produce a dataflow program. (col. 11 lines 59-67). The user will put a

sequence of blocks to together as demonstrated in the Figure 6, which are connected

by wires that will produce a graphical program. By so doing, Sojoodi includes the one

or more specified nodes in the graphical program.

As per the step of displaying one or more suggested nodes to include in the

graphical program in a second palette, based on the one or more nodes selected by the

user input, please note Sojoodi's col. 16 line 64 – col. 17 line 2: Referring now to

FIG. 7, a screen shot including a help screen illustrating the

terminals of a VISA Write function node is shown.   The VISA

write node is illustrative of most VISA function nodes in that

it has a VISA session input terminal, a dup VISA session output

terminal, an error in input terminal, and an error out output

terminal.   Sojoodi, as is seen in fig 7 and others, provides palettes at each stage of

a graphical program's entry sequence, thus reading directly upon the "first palette" and

"separate" "second palette" that are seen in claim 1. This line of reasoning also applies

to broader independent claims 46, 54, since a "graphical user interface" is provided in

Sojoodi for "selecting one or more nodes" and "suggested nodes", as by the "palette" that satisfies claim 47, and to the "graphical user interface"/"palette" combination that appears in independent claim 55.

Regarding claims 2, 20, Sojoodi states the graphical program comprises a block diagram portion and a user interface portion (col. 11 lines 59-67): Referring ahead briefly to FIG. 6, a screen shot of a graphical programming environment, according the present invention, including a VISA virtual instrument exemplary of the VI 50 of FIG. 3 is shown. The screen shot of FIG. 6 comprises an instrument **front panel** in a window in the upper portion of the screen and a **block diagram** in a window in the lower portion of the screen. This is also sufficient to read upon the "user interface" "window" of independent claims 35, 44, 45. It is apparent from a study of Sojoodi that a "graphical data flow program" (claims 3, 21) is developed from the interface that is disclosed—"flow" of some form must take place.

Regarding claim 4's "interconnecting nodes…to visually indicate functionality", this is a central feature of Sojoodi. In Figure 6, Sojoodi illustrates interconnecting nodes to allow the user to visual identify the functionality of the graphical program.

As per claim 7's displaying the one or more suggested nodes as shadow nodes that follow a mouse cursor (see also independent claims 38, 39), Sojoodi notes at (col. 17 lines 27-33) that A programmer "drags" a VISA session control from the Path and Refnum palette, as shown in FIG. 9a, and "drops" the control in a virtual instrument front panel. This "drag"

and "drop" operation is performed by the user using a mouse or other pointing device, as is well known in the art. The drag-and-drop, palette-accessible direct manipulation objects in Sojoodi serve to "shadow" the cursor. By so doing, an "input requesting to include a first suggested node" (as in the help panel procedure of Sojoodi) will result in "including the first suggested node in the graphical program" (claims 8, 24, 32, 48). This is also "automatically including the one or more suggested nodes" (claims 9, 25, 49). In the alternative, the palette in Sojoodi will apply to the situation in which "removal" is intended (independent claims 42, 43); the nodes removed can readily appear in a fig 7, 9A, etc. palette.

Concerning claims 10, 26, 50, Sojoodi discloses determining the one or more suggested nodes, simply in that the palette contents appear at all in a display like fig 7. At some point, they must have been determined. By a form of "user input" somewhere in the design process of the Sojoodi development platform, a "specifying" of "suggestion criteria" to populate such displays will also take place (claim 17).

Clearly, Sojoodi is directed at least to "a test and measurement function" by disclosing virtual instruments, thus meeting the alternative listing of claim 18.

5.   Claim 11 - 16, 27 -30, 36 – 37, 51 - 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sojoodi et al (U.S. Patent Number 5,784,275) in view of Choy et al (U.S. Patent Number 5,506,952).

Concerning claims 11, 27, 51, Sojoodi shows a graphical program editor that uses icons to represent functions of a program. The program is created by the user's dragging and dropping icons that are located on a palette onto a whiteboard screen.

Sojoodi also offers a help window, which aids the user in developing an efficient system, but Sojoodi does not show a system that has the ability to give interactive suggestion to the user depending on the nodes that are necessary to complete an operation.

Choy shows an interactive suggestion depending upon the user's input. Choy also discloses a graphical program that allows the user to create software. The graphical program is an expert system, which allows the user to create and modify icons from a palette.   Choy's icon palette will display only a certain number of icons depending upon the functionality or compatibility of the software being developed. See, for example, Choy, col. 2 lines 13-22.

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to add the expert system node-prediction in Choy into Sojoodi's graphical program, because one of ordinary skill in the art would found motivation in the resultant construction of proper sequences of related elements, which Choy's addition supports by its expert system prediction.

Concerning claims 12, 28, Choy teaches performing an algorithm to determine the one or more suggested nodes (col. 5 lines 32-33 & col. 5 lines 46-48): The method of FIG. 4E dynamically changes the palette 35 to display enabled and disabled icons. Task rules for an expert system are formed, modified, and implemented from a workstation 13 by the main rule formation method of FIG. 4A. In implementing rules, Choy is using an "algorithm".

As in claim 13, Choy's algorithm is also hard-coded to always determine the one or more suggested nodes in response to the one or more nodes selected by the user input, in that the rules have predictable results that "always" produce a certain effect. Choy further suggests claims 14, 15, 29, 52, in which the algorithm is operable to determine the one or more suggested nodes based on previously stored data regarding nodes that frequently occur (col. 2 lines 15-22), since the Choy rules are directed towards producing optimally, and thus, frequently, usable choices. The use of an expert system in Choy then suggests the artificial intelligence heuristic of claims 16, 30, 53.

As per independent claim 36, Choy is specifically directed to creating a script, as by the formation of an instruction, and would be an obvious modification to the Sojoodi "palette"-based interface, as noted above. In Sojoodi, the developed results of a graphical program drive "an image processing process" (claim 37), if only to produce the iconic display.

6.   Claims 40 – 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sojoodi in view of Thomsen et al. ("Thomsen"; US #6,064,409).

Sojoodi, while prompting user input via a help system and a palette, does not **explicitly** teach that the "audio suggestions" of claims 40, 41 be provided. However, audio in graphical programming environments was well known, and specifically provided for in Thomsen, where the user can "hear" the signals propagating on the wire or input to/output from the object (Abstract).

Thus, it would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to include "audio suggestions" such as would be readily

available as cues in the <u>AUDIO</u> environment of Thomsen into the Sojoodi graphical

programming arrangement, so as to improve the user's confidence and capability in

creating graphical programs.

7.   Applicant's arguments filed 13 December 2004 have been fully considered but

they are not persuasive.

At page 16 of the remarks, applicant argues "Sojoodi's help screen illustrating the

terminals of a VISA function node in no way *displays one or more suggested nodes to*

include in the graphical program in a second palette, based on the one or more nodes

selected by user input." However, Sojoodi's abundant provision of "palette" interfaces,

as are seen in the figures of Sojoodi, are enough to suggest that, as the Sojoodi user

goes along in selecting components for a graphical program, the "palette" interfaces

should follow along, and in a contextually-determined content arrangement for future

choices.

Concerning claim 35, applicant argues (page 17) that "the Examiner has

improperly equated Sojoodi's graphical program nodes with user interface elements,

and notes that the present Applicant clearly discloses both graphical program nodes

and user interface elements". However, it remains that a front panel interface is

specified in a particular window in Sojoodi, apart from the one in which the block

diagram appears. This reads upon applicant's claims.

Besides making a generalized argument that the Sojoodi and Choy references

are not properly combinable, applicant argues (page 19) that "in Choy's system and

method, a single palette displays all the available icons for use in the data processing

system". However, it is Sojoodi that is relied upon to show ongoing "palette" displays, and not Choy, which is simply cited to show the use of rules and algorithms in developing "palette" contents *per se*.

8.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Melder et al. (US #6,784,902 B1) is also cited, for its apparent development of a graphical program via a display containing palettes.

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond J. Bayerl whose telephone number is (571)

272-4045. The examiner can normally be reached on M - Th from 9:00 AM to 4:00 PM

ET.

11.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Cabeca, can be reached on (571) 272-4048. All patent application

related correspondence transmitted by FAX **must be directed** to the central FAX

number (703) 872-9306.

12.   Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (571) 272-

2100.

RAYMOND J. BAYERL
**PRIMARY EXAMINER
ART UNIT 2173**
28 March 2005